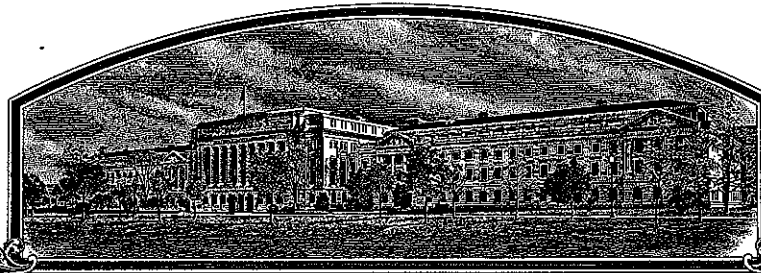


No.

200700155



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Hubbs Vegetable Seed Co., Inc.*

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'Quest'

*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fifth day of June, in the year two thousand and eight.*

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

**U.S. DEPARTMENT OF AGRICULTURE**  
**AGRICULTURAL MARKETING SERVICE**  
**SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE**

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
*(Instructions and information collection burden statement on reverse)*

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

<b>1. NAME OF OWNER</b> Pybas Vegetable Seed Company, Inc.		<b>2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME</b> PYB 3702		<b>3. VARIETY NAME</b> Quest									
<b>4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)</b>  2330 A. Street, Unit B Santa Maria, CA 93455		<b>5. TELEPHONE (include area code)</b> (805) 922-4624		<b>FOR OFFICIAL USE ONLY</b>  <b>PVPO NUMBER</b>  <div style="font-size: 2em; font-weight: bold;">#200700155</div> <b>FILING DATE</b>  <div style="font-size: 1.2em;">FEBRUARY 23, 2007</div>									
<b>6. FAX (include area code)</b> (805) 928-0293		<b>7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)</b>  Corporation											
<b>8. IF INCORPORATED, GIVE STATE OF INCORPORATION</b> California		<b>9. DATE OF INCORPORATION</b> 12-16-1983											
<b>10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)</b> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">           Shawna Bushney or Keith Trammell            2330 A Street, Unit B            Santa Maria, CA 93455         </div> <div style="width: 35%; text-align: right;">           Eric Votava            2330 A Street, Unit B            Santa Maria, CA 93455         </div> </div>													
<b>11. TELEPHONE (include area code)</b> (805) 922-4624		<b>12. FAX (include area code)</b> (805) 928-0293		<b>13. E-MAIL</b> sbushney@pybasseeds.com Eric Votava									
<b>14. CROP KIND (Common Name)</b> Lettuce		<b>16. FAMILY NAME (Botanical)</b> Asteracea		<b>18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL)</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO  IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.									
<b>15. GENUS AND SPECIES NAME OF CROP</b> Lactuca sativa		<b>17. IS THE VARIETY A FIRST GENERATION HYBRID?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO											
<b>19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)</b> <table style="width:100%; border: none;"> <tr><td>a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety</td></tr> <tr><td>b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness</td></tr> <tr><td>c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety</td></tr> <tr><td>d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)</td></tr> <tr><td>e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership</td></tr> <tr><td>f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit</td></tr> <tr><td>g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)</td></tr> <tr><td>g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)</td></tr> </table>						a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety	b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness	c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety	d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)	e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership	f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit	g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)	g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety													
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g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)													
<b>20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)</b> <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)													
<b>21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED													
<b>22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.  <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED <i>(If additional explanation is necessary, please use the space indicated on the reverse.)</i>													
<b>23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. <i>(Please use space indicated on reverse.)</i>													
<b>24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?</b>  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO  IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. <i>(Please use space indicated on reverse.)</i>													
<b>25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.</b>  The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.													
<b>SIGNATURE OF OWNER</b> 			<b>SIGNATURE OF OWNER</b> 										
<b>NAME (Please print or type)</b> Robert E. Pybas			<b>NAME (Please print or type)</b> 										
<b>CAPACITY OR TITLE</b> President		<b>DATE</b> 02/19/07		<b>CAPACITY OR TITLE</b> 									
				<b>DATE</b> 									

*(See reverse for instructions and information collection burden statement)*

**GENERAL INSTRUCTIONS:** To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

**Plant Variety Protection Office**  
**Telephone:** (301) 504-5518 **FAX:** (301) 504-5291  
**General E-mail:** PVP@mail@usda.gov  
**Homepage:** <http://www.ams.usda.gov/science/pvpo/PVPIndex.htm>

#200700155

**SPECIFIC INSTRUCTIONS:**

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and **provide evidence** that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. <http://www.ams.usda.gov/lsg/seed.htm>.

**ITEM**

- 19a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
  - (2) the details of subsequent stages of selection and multiplication;
  - (3) evidence of uniformity and stability; and
  - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

**22. CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

**23. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)  
DATE of first sale of seed of Quest in U.S.; 3-2-06. We market our seed products exclusively through a dealer network and as such have no direct knowledge of the sales or marketing of crops of "Quest".

**24. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Exhibit A  
Origin and Breeding History  
'Quest' (PYB 3702)

The iceberg lettuce variety 'Quest' (PYB 3702) was derived from the cross 'Fallgreen' x PYB 4601 made in the summer of 1998. It was developed using the pedigree breeding method.

'Fallgreen' is a variety used for production in the desert southwest. It was released in 1990 by Ferry Morse Seed Co. and is the product of a cross 'Emporer' x 'Winterhaven' (Personal communication with Dr. George Emery, retired plant breeder).

The breeding history of 'Quest' is diagramed in Figure 1. PYB 4601 was derived from the cross ('Glacier' x Pybas 251) x UC 205. 'Glacier' was a corky root resistant variety released by the USDA in 1991 and was derived from the cross 'Green Lake' x 'Salinas'. Pybas 251 was a selection from the variety 'El Toro', and UC 205 was a downy mildew resistant breeding line from the cross 'Calmar' x 'Solito' released by the University of California, Davis in 1993.

F2 seed of the 'Fallgreen' x PYB 4601 cross was produced in the San Joaquin Valley in 1999 and was trailed near Santa Maria, California in the summer of 2000. The F2 population was quite variable with most plants maturing early with small tight heads that resisted cracking. Most plants had a lack of good head protection from the outer frame leaves. A few plants with large solid heads had somewhat better head protection. Several of these larger heading types were selected and selfed to produce F3 seed.

The F3 seed was trailed near Santa Maria in the summer of 2001 in a field heavily infested with the corky root bacterium. By pulling and observing the roots of a large number of plants, one of these lines was determined to be homozygous resistant to corky root. The line was large heading and very early maturing. Head shape was somewhat variable ranging from round to flat. Six single plants were saved from this line and F4 seed was produced. Selection was based on round head shape, protection of the head by the outer leaves, and lack of tipburn.

The F4 seed was planted in a trial in 2002 near the same location as the previous two years. All six lines were observed to be resistant to corky root and all retained the essential characteristics of large head size with early maturity observed in preceding generations. There were slight differences between the sisters for head protection. Five plants were selected from the single line judged to have the best uniformity and the best head protection.

The F5 seed from these selections were trailed near Guadalupe, California in the summer of 2003. There was good uniformity within and between all the lines. Six ideal F5 plants were selected and selfed to produce F6 seed later that season.

The F6 plants were trailed in the summer 2004 again near Guadalupe, and they were also planted in our commercial seed production area near Buttonwillow, California. In the Guadalupe trial, the F6 plants exhibited the same high level of uniformity observed the previous generation. Consequently, the seed from all of the plants grown in Buttonwillow was harvested in bulk (F7). The line was designated PYB 3702.

The F7 bulk lot was trailed in numerous locations in 2005 and 2006. The plants were uniform. The bulked F7 seed was used for stock seed for commercial increases in the San Joaquin Valley in 2005 and 2006 and in Australia in 2006.

'Quest' has been uniform and stable for the last three generations of its development and no off types or variants have been observed.

FIGURE 1. Breeding history of QUEST

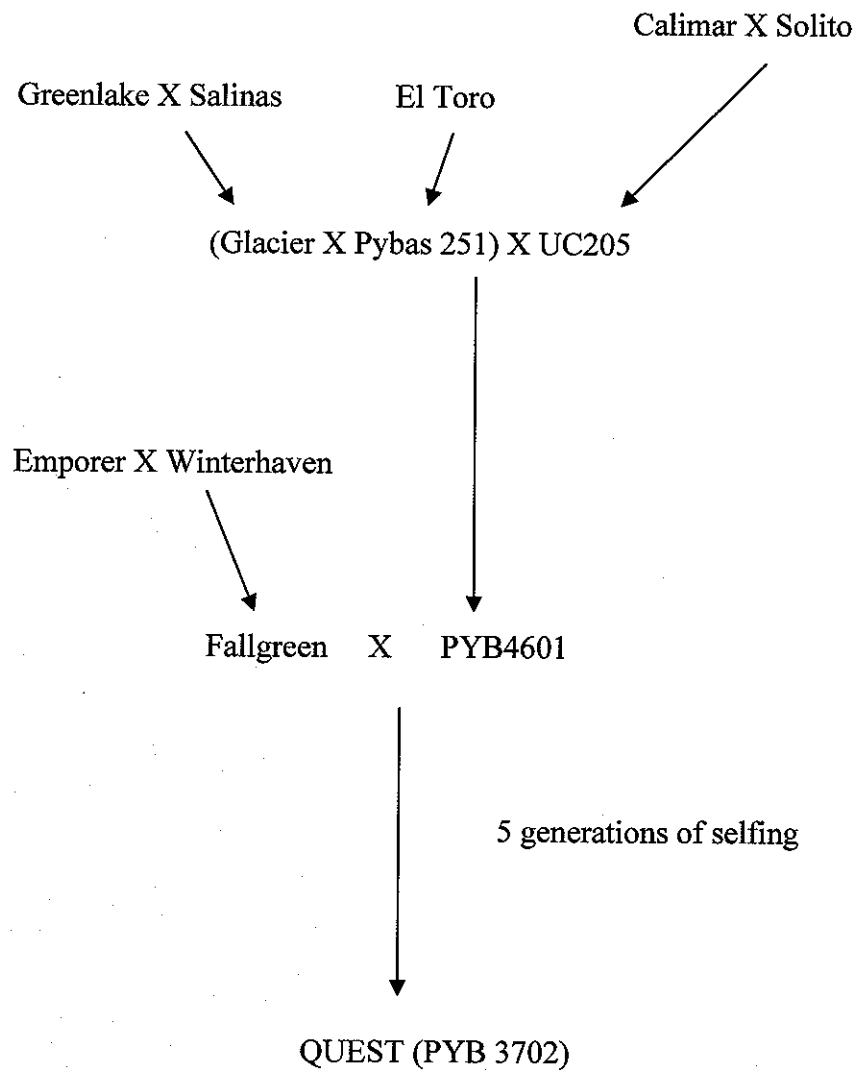


EXHIBIT B  
Statement of Distinctness  
For

'Quest' (PYB 3702)

'Quest' (PYB 3702) is a large heading, unusually fast maturing, corky root resistant iceberg lettuce variety particularly well suited for bulk production in the late spring through mid summer harvest periods in the coastal valleys of California.

'Quest' is most similar to the corky root resistant variety 'Telluride' (PVP 200300168). It differs from 'Telluride', however, in that 'Quest' has a greater head weight (641 gms. Vs 517 gms.), a larger head diameter (13.3 cm. VS 12.7 cm.), and a longer core height (49.4 mm. VS 40 mm.). These figures are the overall means of those characteristics significant in Trials 1 and 2 (Table 1) and reported in Table 3.

In its reproductive phase the mature seeder height of 'Quest' is significantly greater than that of 'Telluride' (124 cm. Vs 107 cm.) and its seed head width is greater (46.2 cm. VS 40.9 cm.). These figures are the overall averages for Trials 1 and 2 (Table 2), reported in Table 3.

Although the heads of 'Quest' are larger in terms of their diameters, the significant head weight advantage of 'Quest' over 'Telluride' is due primarily to its unusually fast maturity. The more rapid filling in of the heads of 'Quest' results in greater head density and weight at the time of harvest when the two varieties are grown for the same number of days. These differences in maturity are depicted in photographs comparing 'Quest' and 'Telluride' submitted in Exhibit D. Also included are photographs depicting these same relative maturity differences between 'Quest' and 'Del Rio', 'Winterhaven', 'Bubba', and 'Cibola'. The comparison varieties shown in these photos are estimated to take 5 to 8 days longer to reach maturity.

'Quest' is also different from 'Telluride' in that 'Telluride' contains the Dm18 gene and is resistant to CA pathotypes I, IIA, IIB, III, IV, V, and VI of lettuce downy mildew, whereas 'Quest' does not have the Dm18 gene and is susceptible to these pathotypes.

EXHIBIT B-10

## **Supporting Evidence**

**for the Downy Mildew (*Bremia Lactuca*) ratings of 'Quest'**

**The PVP (#200300168) 'Telluride' states that Telluride is homozygous for Bremia R factor 18.**

**R 18 (also referred to as Dm 18 and R32) confers resistance to the following California pathotypes of Bremia:**

**Pathotypes I, IIB, and III: California Iceberg Lettuce Ann. Report. April 1, 1994-March 31<sup>st</sup>, 1995.**

**Pathotypes IIB, III, IV, and V: California Iceberg Lettuce Ann. Report. April 1, 1998- March 31<sup>st</sup>, 1999.**

**Pathotypes VI and VII: California Iceberg Lettuce Ann. Report. April 1, 2001-March 31<sup>st</sup>, 2002.**



Results of Downy Mildew testing of 'Quest' by STA Laboratories, Gilroy, California, November, 2005.

Pathotype	Number of Seedling inoculated	Number of seedlings resistant	Number of seedlings susceptible
IIB	25	0	25
V	25	0	25
VI	25	0	25
VII	25	0	25
VIII	25	0	25

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY  
Lettuce (*Lactuca sativa* L.)

NAME OF APPLICANT (S) <u>Pybas Vegetable Seed Co, Inc</u>	TEMPORARY OR EXPERIMENTAL DESIGNATION <u>PYB 3702</u>	VARIETY NAME <u>Quest</u>
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) <u>2330 A Street, Unit B</u> <u>Santa Maria, Ca 93455</u>		FOR OFFICIAL USE ONLY PVPO NUMBER <u>#200700155</u>

Place the appropriate number that describes the varietal character in the boxes below. Place a zero in the first box (e.g.    or   ) when number is either 99 or less or 9 or less. Measured data should be the mean of an appropriate number (at least 20) of well space plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The Location of the Test Area is: <u>Santa Maria Valley, California</u>	Color System Used: <u>Royal Horticultural Society Colour Chart</u>
--	---

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: Use standard regional check varieties, which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Application Variety (a1) Quest Most Similar Variety (c1) Telluride

Standard Regional Check Variety (c2) \_\_\_\_\_

1. PLANT TYPE: (See List of Suggested Check Varieties on Page 8)

01 = Cutting/Leaf 02 = Butterhead 03 = Bibb	04 = Cos or Romaine 05 = Great Lakes Group 06 = Vanguard Group	07 = Salinas Group 08 = Eastern (Ithaca) Group 09 = Stem	10 = Latin 11 = Other (Specify) _____
(a1) <input type="text" value="0"/> <input type="text" value="7"/>	(c1) <input type="text" value="0"/> <input type="text" value="7"/>	(c2) <input type="text" value=""/> <input type="text" value=""/>	

2. SEED:

(a1) <input type="text" value="2"/>	COLOR 1 = White (Silver Gray) 2 = Black (Grey Brown) 3 = Brown (Amber)	(a1) <input type="text" value="2"/>	LIGHT DORMANCY 1 = Light Required 2 = Light Not Required	(a1) <input type="text" value="1"/>	HEAT DORMANCY 1 = Susceptible = 2 = Not Susceptible
(c1) <input type="text" value="2"/>		(c1) <input type="text" value="2"/>		(c1) <input type="text" value="1"/>	
(c2) <input type="text" value=""/>		(c2) <input type="text" value=""/>		(c2) <input type="text" value=""/>	

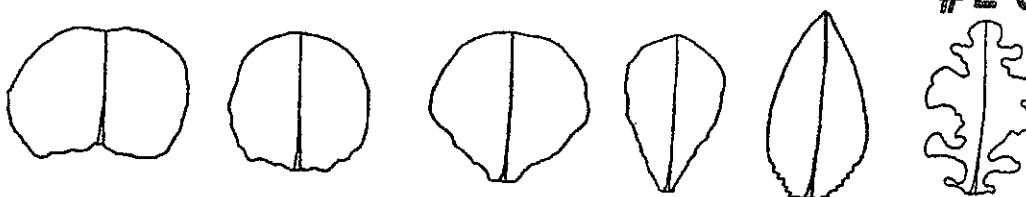
3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day-old seedling grown under optimal conditions.

SHAPE OF COTYLEDONS: 1 = Broad 2 = Intermediate 3 = Spatulate
(a1) <input type="text" value="2"/> (c1) <input type="text" value="2"/> (c2) <input type="text" value=""/>
SHAPE OF FOURTH LEAF: (a1) <input type="text" value="3"/> (c1) <input type="text" value="3"/> (c2) <input type="text" value=""/>

9

## 3. COTYLEDON TO FOURTH LEAF STAGE: (continued)

#200700155



1 = Transverse oval   2 = Round   3 = Oval   4 = Elongated   5 = Lanceolate   6 = Pinnately lobed

## LENGTH/WIDTH INDEX OF FOURTH LEAF: LW x 10

(a1)  (c1)  (c2)  

## APICAL MARGIN:

1 = Entire

2 = Crenate/Gnawed

3 = Finely Dentate

4 = Moderately Dentate

5 = Coarsely Dentate

6 = Incised

7 = Lobed

8 = Other (Specify) \_\_\_\_\_

(a1) (c1) (c2) 

## BASAL MARGIN: (Use the options for Apical Margin above)

(a1) (c1) (c2) 

## UNDULATION:

1 = Flat

2 = Slight

3 = Medium

4 = Marked

(a1) (c1) (c2) 

## GREEN COLOR:

1 = Yellow Green

2 = Light Green

3 = Medium Green

4 = Dark Green

5 = Blue Green

6 = Silver Green

7 = Grey Green

(a1) (c1) (c2) 

## ANTHOCYANIN:

## DISTRIBUTION:

1 = Absent

2 = Margin Only

3 = Spotted

4 = Throughout

5 = Other (Specify) \_\_\_\_\_

(a1) (c1) (c2) 

## CONCENTRATION:

1 = Light

2 = Moderate

3 = Intense

(a1) (c1) (c2) 

## ROLLING:

1 = Absent

2 = Present

(a1) (c1) (c2) 

## CUPPING:

1 = Uncupped

2 = Slight

3 = Markedly

(a1) (c1) (c2) 

## REFLEXING:

1 = None

2 = Apical Margin

3 = Lateral Margins

(a1) (c1) (c2) 

10

**4. MATURE LEAVES** (Observe Harvest-Mature Outer Leaves)

#200700155

NOTE: Provide color photo of a harvest-mature leaf which accurately shows color and margin characteristics.

**MARGIN:****INCISION DEPTH:**  
(deepest penetration  
of the margin)

1 = Absent/Shallow (Dark Green Boston)

2 = Moderate (Vanguard)

3 = Deep (Great Lakes 659)

(a1)

2

(c1)

2

(c2)

**INDENTATION:** (Finest divisions of the margin)

1 = Entire (Dark Green Boston)

4 = Crenate (Vanguard)

2 = Shallowly Dentate (Great Lakes 65)

5 = Other (Specify) \_\_\_\_\_

3 = Deeply Dentate (Great Lakes 659)

(a1)

4

(c1)

4

(c2)

**UNDULATIONS OF THE  
APICAL MARGIN:**

1 = Absent/Slight (Dark Green Boston) 2 = Moderate (Vanguard)

3 = Strong (Great Lakes 659)

(a1)

2

(c1)

2

(c2)

**GREEN COLOR:**

1 = Very Light Green (Bibb)

3 = Medium Green (Great Lakes)

5 = Very Dark Green

2 = Light Green (Minetto)

4 = Dark Green (Vanguard)

6 = Other (Specify) \_\_\_\_\_

(a1)

3

(c1)

3

(c2)

**ANTHOCYANIN:****DISTRIBUTION:**

1 = Absent

3 = Spotted (California Cream Butter)

5 = Other (Specify) \_\_\_\_\_

2 = Margin Only (Big Boston)

4 = Throughout (Prize Head)

(a1)

1

(c1)

1

(c2)

**CONCENTRATION:**

1 = Light (Iceberg)

2 = Moderate (Prize Head) 3 = Intense (Ruby)

(a1)

(c1)

(c2)

**SIZE:**

1 = Small

2 = Medium

3 = Large

(a1)

3

(c1)

2

(c2)

**GLOSSINESS:**

1 = Dull (Vanguard)

2 = Moderate (Salinas)

3 = Glossy (Great Lakes)

(a1)

02

(c1)

02

(c2)

**BLISTERING:**1 = Absent/Slight  
(Salinas)2 = Moderate  
(Vanguard)3 = Strong  
(Prize Head)

(a1)

02

(c1)

02

(c2)

**LEAF THICKNESS:**

1 = Thin

2 = Intermediate

3 = Thick

(a1)

02

(c1)

02

(c2)

**TRICHOMES:**

1 = Absent (Smooth)

2 = Present (Spiny)

(a1)

01

(c1)

01

(c2)

**5. PLANT:****SPREAD OF FRAME LEAVES:**

(a1)

49 cm

(c1)

46 cm

(c2)

11

## 5. PLANT: (continued)

#200700155

HEAD DIAMETER: (Market Trimmed with Single Cap Leaf)

(a1)  cm (c1)  cm (c2)  cm

HEAD SHAPE:

1 = Flattened 3 = Spherical 5 = Non-Heading  
2 = Slightly Flattened 4 = Elongate

6 = Other (Specify) \_\_\_\_\_

(a1)  (c1)  (c2) 

HEAD SIZE CLASS:

1 = Small 2 = Medium 3 = Large

(a1)  (c1)  (c2) 

HEAD PER CARTON:

(a1)  (c1)  (c2) 

HEAD WEIGHT:

(a1)  g. (c1)  g. (c2)  g.

HEAD FIRMNESS:

1 = Loose 2 = Moderate 3 = Firm 4 = Very Firm

(a1)  (c1)  (c2) 

## 6. BUTT:

SHAPE:

1 = Slightly Concave 2 = Flat 3 = Rounded

(a1)  (c1)  (c2) 

MIDRIB:

1 = Flattened (Salinas) 2 = Moderately Raised 3 = Prominently Raised (Great Lakes 659)

(a1)  (c1)  (c2) 

## 7. CORE:

DIAMETER AT BASE OF HEAD:

(a1)  mm (c1)  mm (c2)  mm

RATIO OF HEAD DIAMETER/CORE DIAMETER:

(a1)  (c1)  (c2) 

CORE HEIGHT FROM BASE OF HEAD TO APEX:

(a1)  mm (c1)  mm (c2)  mm8. BOLTING: (Give First Water Date: 04-25-2006) NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

NUMBER OF DAYS FROM FIRST WATER DATE TO SEED STALK EMERGENCE: (summer conditions)

(a1)  (c1)  (c2) 

BOLTING CLASS:

1 = Very Slow 3 = Medium 5 = Very Rapid  
2 = Slow 4 = Rapid(a1)  (c1)  (c2) 

HEIGHT OF MATURE SEED STALK:

(a1)  cm (c1)  cm (c2)  cm

12

## 8. BOLTING: (continued)

#200700155

## SPREAD OF BOLTER PLANT: (At widest point)

(a1)  cm(c1)  cm(c2)  cm

## BOLTER LEAVES: 1 = Straight 2 = Curved

(a1) (c1) (c2) 

## MARGIN: 1 = Entire 2 = Dentate

(a1) (c1) (c2) 

## COLOR: 1 = Light Green 2 = Medium Green 3 = Dark Green

(a1) (c1) (c2) 

## BOLTER HABIT:

## TERMINAL INFLORESCENCE: 1 = Absent 2 = Present

(a1) (c1) (c2) 

## LATERAL SHOOTS:

1 = Absent 2 = Present

(a1) (c1) (c2) 

## BASAL SIDE SHOOTS:

1 = Absent 2 = Present

(a1) (c1) (c2) 

## 9. MATURITY: (earliness of harvest-mature head formation)

NOTE: Complete this section for at least one season.

SEASON	APPLICATION VARIETY No. of Days <sup>1</sup>			MOST SIMILAR VARIETY No. of Days <sup>1</sup>			STANDARD REGIONAL CHECK VARIETY No. of Days <sup>1</sup>		
Spring	76			82					
Summer									
Fall									
Winter									

<sup>1</sup> First Water Date to Harvest

Give Planting Date(s) and Location(s):

Spring: Santa Maria, Calif. : Planted: 04/19/2006 watered 4/21/2006

Summer: \_\_\_\_\_

Fall: \_\_\_\_\_

Winter: \_\_\_\_\_

## 10. ADAPTATION:

## PRIMARY REGIONS OF ADAPTATION (tested and proven adapted):

0 = Not Tested 1 = Not Adapted 2 = Adapted

Southwest (CA and/or AZ desert)

West Coast

Northeast

North Central

Southeast

Other (Specify) \_\_\_\_\_

13

## 10. ADAPTATION: (Continued)

#200700155

## SEASON:

☒ Spring (Area west coast)      ☒ Fall (Area Arizona)  
☒ Summer (Area west coast)      ☐ Winter (Area \_\_\_\_\_)

☐ GREENHOUSE: 0 = Not Tested      1 = Not Adapted      2 = Adapted

☐ SOIL TYPE: 1 = Mineral      2 = Organic      3 = Both

## 11. VIRAL DISEASES:

1 = Immune      3 = Resistant      5 = Moderately Resistant/Moderately Susceptible      7 = Susceptible      9 = Highly Susceptible

Big Vein	(a1)	<input type="checkbox"/>	(c1)	<input checked="" type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Cucumber Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Tomato Bushy Stunt, cause of dieback	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Turnip Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Beet Western Yellows	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Infectious Yellows	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

0 = not tested

## 12. FUNGAL/BACTERIAL DISEASES:

1 = Immune      3 = Resistant      5 = Moderately Resistant/Moderately Susceptible      7 = Susceptible      9 = Highly Susceptible

Corky Root Rot (Races: _____)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Downy Mildew (Races: <u>I, II A, II B, III, IV, V, VI</u> )	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Powdery Mildew	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Sclerotinia Drop	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Bacterial Soft Rot ( <i>Pseudomonas</i> spp. and others)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Botrytis (Grey Mold)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Verticillium Wilt	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Bacterial Leaf Spot	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Anthrachnose	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

0 = not tested

## 13. INSECTS:

1 = Immune      3 = Resistant      5 = Moderately Resistant/Moderately Susceptible      7 = Susceptible      9 = Highly Susceptible

Cabbage Loopers	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Root Aphids	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Green Peach Aphid	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Aphid	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Pea Leafminer	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

0 = not tested

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## 14. PHYSIOLOGICAL STRESSES:

1 = Immune      3 = Resistant      5 = Moderately Resistant/Moderately Susceptible      7 = Susceptible      9 = Highly Susceptible

Tipburn	(a1)	<input type="text" value="3"/>	(c1)	<input type="text" value="3"/>	(c2)	<input type="text"/>
Heat	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Drought	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Cold	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Salt	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Brown Rib (Rib Discoloration, Rib Blight)	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Other (Specify) _____	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>

0 = untested

## 15. POST HARVEST STRESS:

1 = Immune      3 = Resistant      5 = Moderately Resistant/Moderately Susceptible      7 = Susceptible      9 = Highly Susceptible

Pink Rib	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Russet Spotting	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Rusty Brown Discoloration	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Internal Rib Necrosis (Blackheart, Grey Rib, Grey Streak)	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>
Brown Stain	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text"/>

0 = untested

## 16. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:

## 17. COMMENTS:

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#200700155

## SUGGESTED CHECK VARIETIES

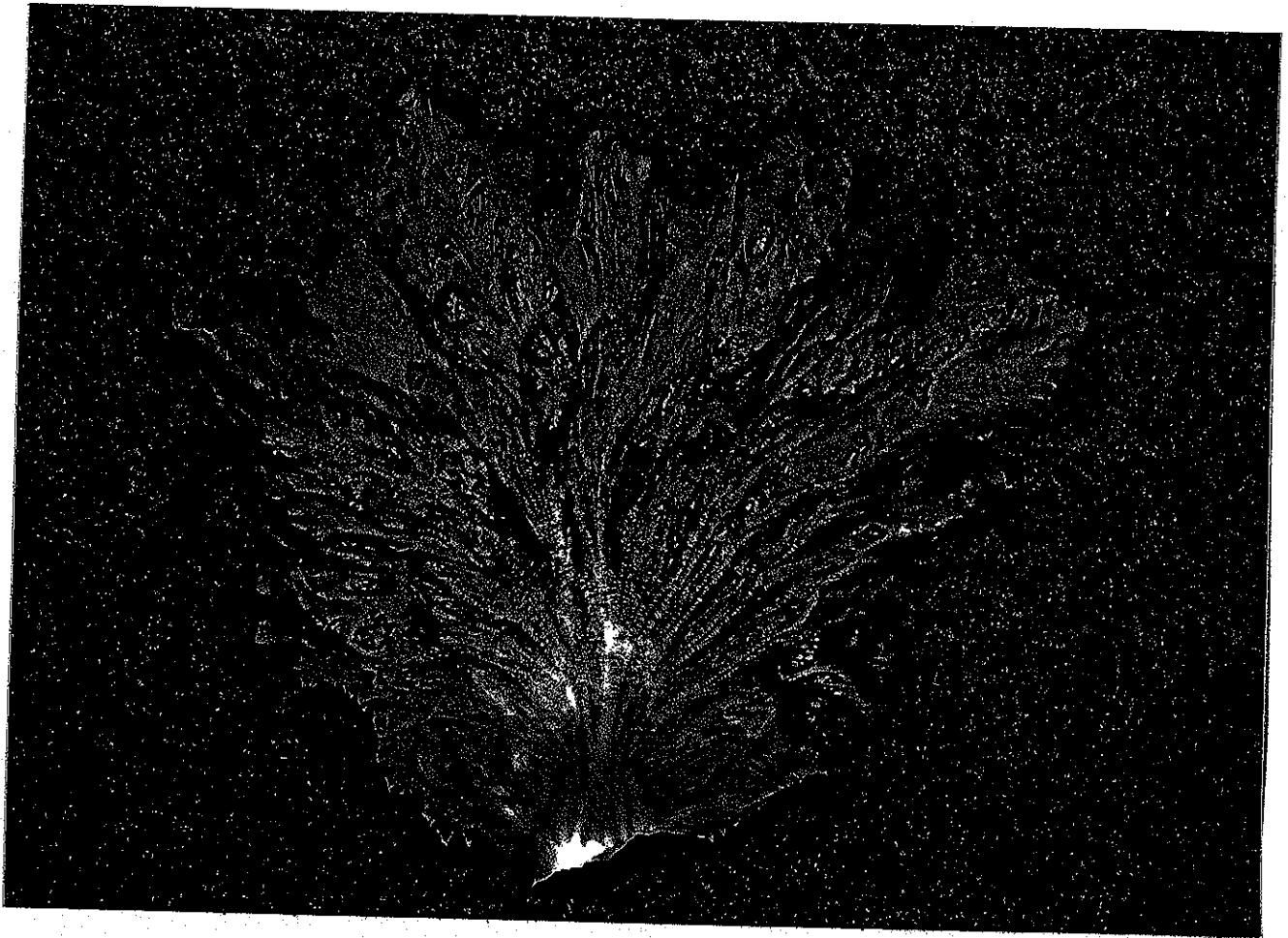
TYPE	CHECK VARIETY
1 Cutting/Leaf	Waldmann's Green
2 Butterhead	Dark Green Boston
3 Bibb	Bibb
4 Cos or Romain	Parris Island
5 Great Lakes Group	Great Lakes 659-700
6 Vanguard Group	Vanguard
7 Salinas Group	Salinas
8 Eastern Group	Ithaca
9 Stem	Celtuce
10 Latin	Little Gem

## REFERENCES

- Bowring, J.D.C., 1969, "The Identification of Varieties of Lettuce (*Lactuca Sativa* L.)". Journal of the National Institute of Agricultural Botany 11:499-520. National Institute of Agricultural Botany, Cambridge, UK.
- Davis, R.M., K.V. Subbarao, R.N. Raid, and E.A. Kurtz, 1997. "Compendium of Lettuce Diseases". APS Press, St. Paul, MN.
- Michelmore, R.W., J. M. Norwood, D.S. Ingram, I.R. Crute and P. Nicholson. 1984. "The inheritance of virulence in *Bremia lactucae* to match resistance factors 3, 4, 5, 6, 8, 9, 10, and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Norwood, J.M., R.W. Michelmore, I.R. Crute and D.S. Ingram. 1983. "The inheritance of specific virulence of *Bremia lactucae* (Downy Mildew) to match R-factors 1, 2, 4, 6, and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Rodenburg, C.M., et al., 1960. "Varieties of Lettuce. An International Monograph", Instituut voor de Verdeling van Tuinbouwgewassen (IVT), Wageningen, NL.
- Ryder, E.J., 1999, *Lettuce, Endive, and Chicory*, CABI Publications, Wallingford, UK.

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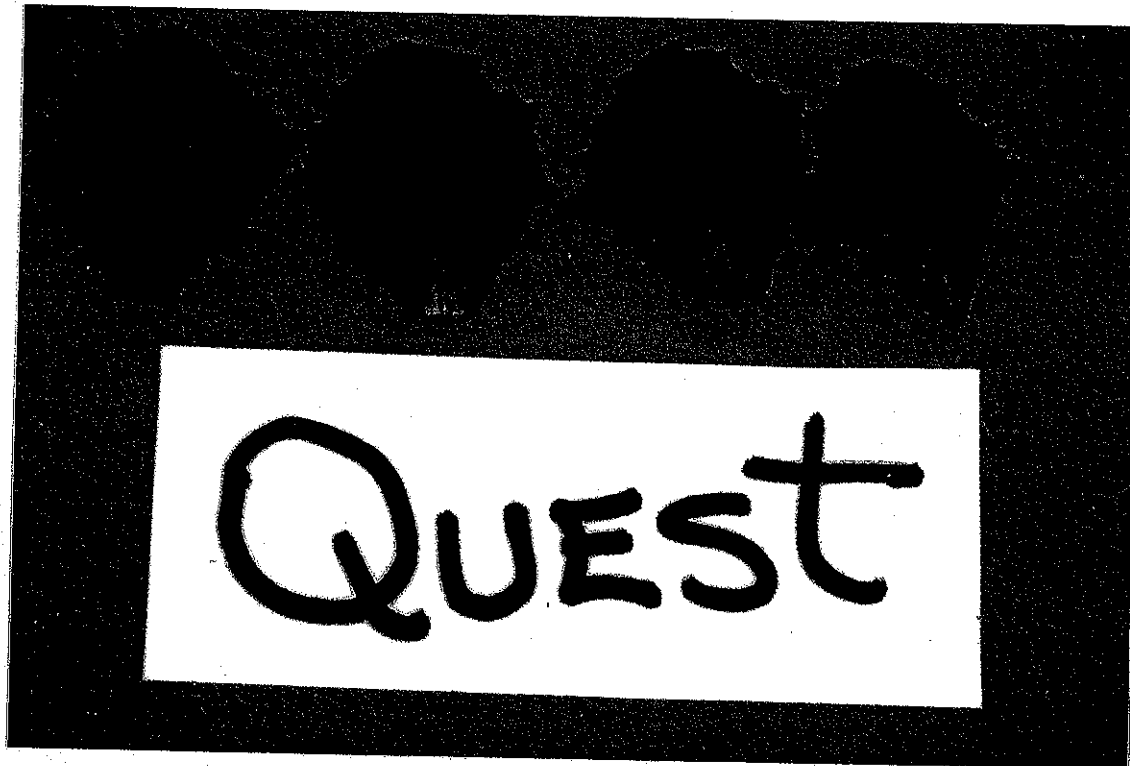
PVP Application: Mature leaf of QUEST  
Application filed by: Pybas Vegetable Seed Company  
Photo taken: 08/25/2006; leaf 65 days old.



#200700155

February 19<sup>th</sup>, 2007

Photograph of 20 day old 4<sup>th</sup> leaves of 'Quest'.



PVP Application for: QUEST

Photos comparing maturity of QUEST and TELLURIDE:

Grower: Betteravia Farms, Santa Maria, CA. Seeded: 06-20-2006; Harvested:  
08/25/2006.

Quest is in the top row. Telluride is in the bottom row.

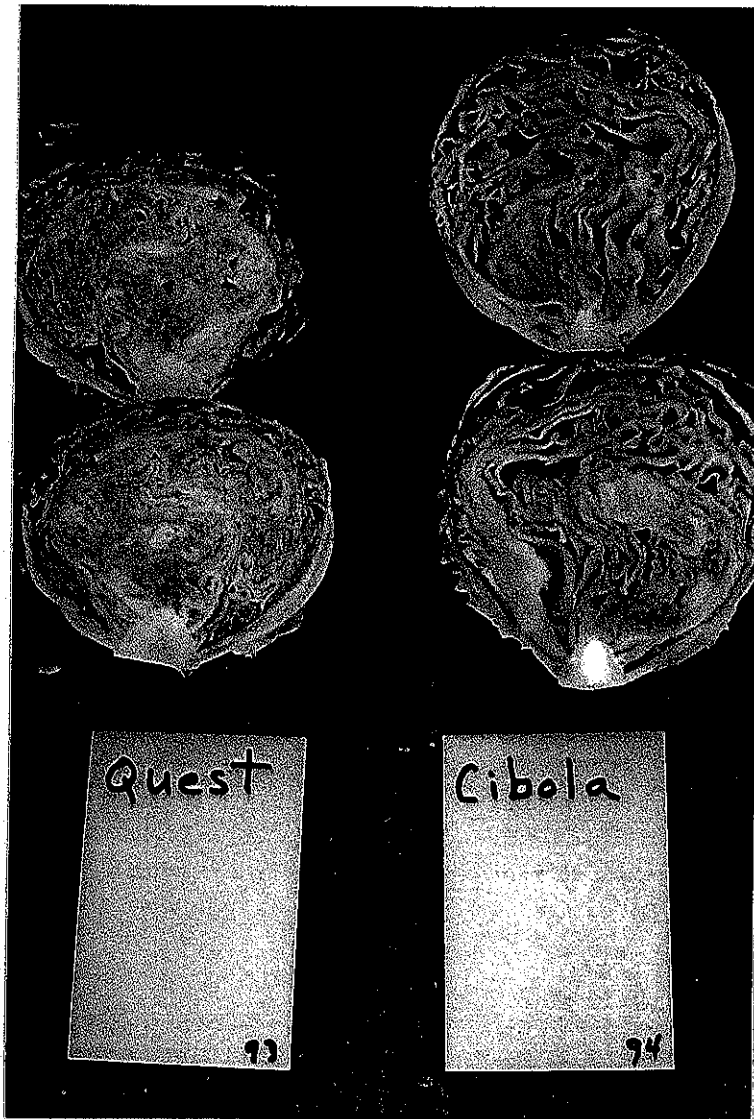


## EXHIBIT D

PVP Application for: QUEST

Photos comparing maturity of QUEST with DEL ORO and CIBOLA:

Grower: Harrison Farming, Yuma, AZ. Seeded: 10-12-2006; Harvested: 01/18/2007.



PVP Application for: QUEST

Photos comparing maturity of QUEST with WINTERHAVEN and BUBBA:

Grower: Harrison Farming, Yuma, AZ. Seeded: 10-12-2006; Harvested: 01/18/2007.

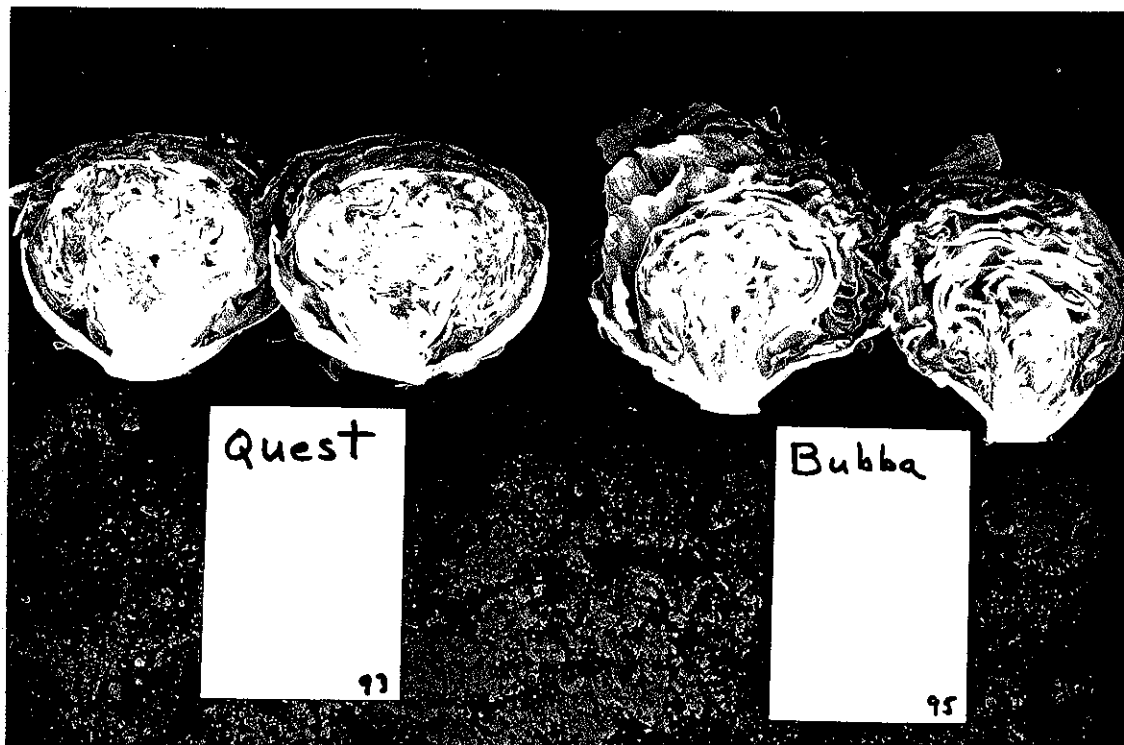
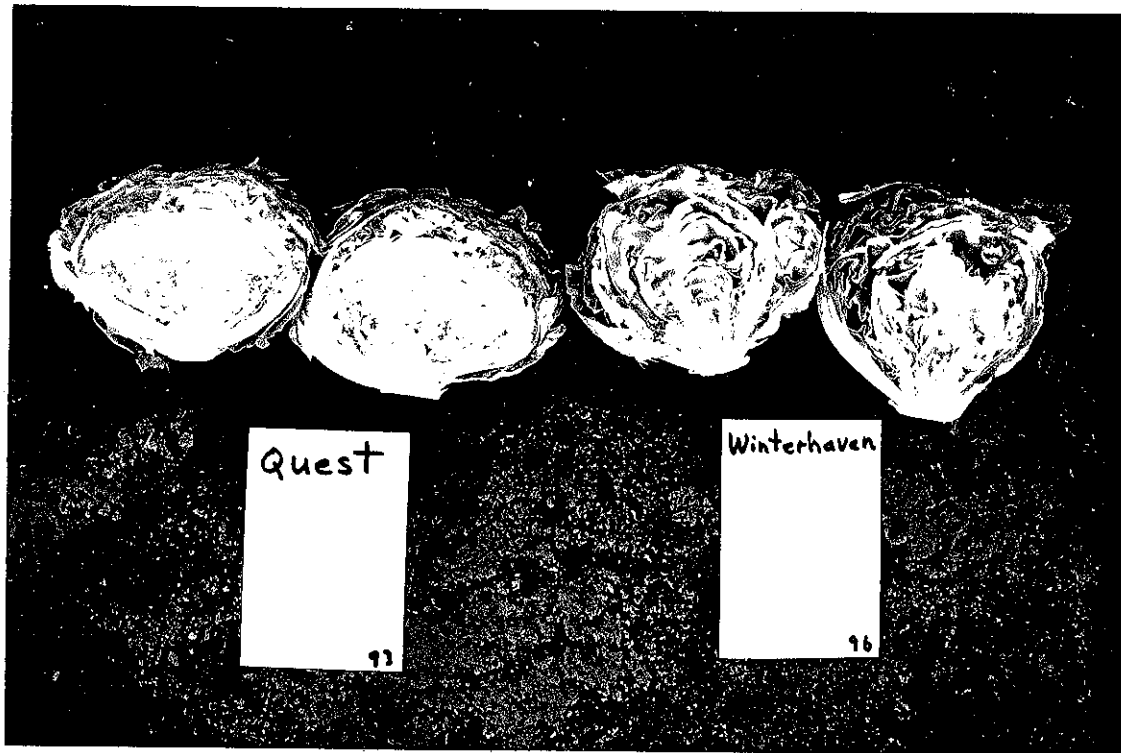


Table 1. Agronomic characteristics of two varieties of *Lactuca sativa* L. grown in two locations, Trial 1 and Trial 2, in 2006. Trials were planted in a randomized complete block design with four replications. All data were analyzed using a Student's t-Test.

Trial 1 <sup>a</sup> :	Frame Diameter (cm)	Head Diameter (cm)	Head Weight (g)	Core Diameter (mm)	Core Height (mm)
Quest	47.8	13.1	617.0	31.8	34.9
Telluride	40.8	12.3	474.0	30.3	31.9
Standard Deviation	2.9	0.9	119.0	2.5	5.4
t-value	12.1	4.2	5.9	3.0	2.8
P-value	<.0001	<.0001	<.0001	0.004	0.007

Trial 2 <sup>b</sup> :	Frame Diameter (cm)	Head Diameter (cm)	Head Weight (g)	Core Diameter (mm)	Core Height (mm)
Quest	50.7	13.5	660.0	31.2	61.0
Telluride	50.2	13.0	552.0	30.7	46.4
Standard Deviation	2.2	0.7	105.0	3.0	11.7
t-value	1.2	3.8	5.6	0.9	6.8
P-value	0.22	0.0002	<.0001	0.036	<.0001

<sup>a</sup>. Trial 1: Grower: Betteravia Farms, 603 West, Santa Maria, CA. Seeded: 04-19-2006, Watered: 04-21-2006, Harvested: 07-06-2006 (76 days). Sample Size: N=48; df=94; t(0.05)=1.98; t(0.01)=2.63.

<sup>b</sup>. Trial 2: Grower: Betteravia Farms, 1605, Santa Maria, CA. Seeded: 06-20-2006, Watered: 06-21-2006, Harvested: 08-25-2006 (65 days). Sample size: N=60; df=118; t(0.05)=1.98; t(0.01)=2.61.

Table 3. Agronomic data combined from two trials for two varieties of *Lactuca sativa* L. All data was analyzed using a Student's t-Test.

Combined Trials <sup>a</sup>	Frame Diameter (cm)	Head Diameter (cm)	Head Weight (g)	Core Diameter (mm)	Core Height (mm)	Height of Bolter (cm)	Width of Seed Head (cm)
Quest	49.4	13.3	641	31.5	49.4	124.0	46.2
Telluride	46.0	12.7	517	30.5	40.0	107.0	40.9
Standard Deviation	4.3	0.8	115	2.8	14.1	6.5	5.6
t-value	5.9	5.4	7.9	2.5	4.9	13.1	4.7
P-value	<0.0001	<0.0001	<0.0001	0.013	<0.0001	<0.0001	<0.0001

<sup>a</sup> Data in this table represents the combined values for data contained in tables 1 and 2.



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Table 2. Seeder height and seed head width for two *Lactuca sativa* L. varieties, Quest and Telluride. Plants were grown in 2005 and 2006. Data were analyzed with a Student's t-test.

	Trial 1 <sup>a</sup>		Trial 2 <sup>b</sup>	
	Seeder Height (cm)	Seed Head Width (cm)	Seeder Height (cm)	Seed Head Width (cm)
Quest	125	49.4	122	43.0
Telluride	104	42.9	109	38.9
Standard Deviation	7.4	6.2	5.1	3.2
t-value	10.0	3.7	9.4	4.6
P-value	<0.0001	0.0006	<0.0001	<0.0001

<sup>a</sup>. Trial 1: Buttonwillow, CA. Seeded: 05-10-2005; Measured 08-15-2005. Sample size: N=25;  $t_{(0.05)}=2.01$ ;  $t_{(0.01)}=2.68$ .

<sup>b</sup>. Trial 2: Buttonwillow, CA. Seeded: 04-24-2006; Measured 08-11-2006. Sample size: N=25;  $t_{(0.05)}=2.01$ ;  $t_{(0.01)}=2.68$ .

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  Pybas Vegetable Seed Company, Inc	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  PYB 3702	3. VARIETY NAME  Quest
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  2330 A Street, Unit B Santa Maria, CA 93455	5. TELEPHONE (Include area code)  (805) 922-4624	6. FAX (Include area code)  (805) 928-0293
7. PVPO NUMBER  <b>#200700155</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

Quest was developed by Keith Trammell, plant breeder for Pybas Vegetable Seed Company, Inc.

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT F  
DECLARATION REGARDING DEPOSIT**

NAME OF OWNER (S) Pybas Vegetable Seed Company, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 2330 A Street, Unit B Santa Maria, CA 93455	TEMPORARY OR EXPERIMENTAL DESIGNATION PYB 3702
NAME OF OWNER REPRESENTATIVE (S) Shawna Bushey or Keith Trammell	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 2330 A Street, Unit B Santa Maria, CA 93455	VARIETY NAME Quest <div style="background-color: black; color: white; text-align: center; padding: 2px;">FOR OFFICIAL USE ONLY</div> PVPO NUMBER <div style="font-size: 1.5em; font-weight: bold;">#200700155</div>

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Keith Trammell  
Signature

2-5-07  
Date

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